

March 18, 2011

*Dear Interested Parties:*

The Washington Department of Fish and Wildlife (WDFW) has published a Final Environmental Impact Statement (FEIS) titled: **Puget Sound Rockfish Conservation Plan (PSRCP)**. The original plan was revised following an initial period of public comments. The revised plan expanded the geographical coverage of the original plan to include the waters between Cape Flattery and the Sekiu River in the Strait of Juan de Fuca. This change was made in response to initial public comments. With consideration of all comments received WDFW has prepared this Final Environmental Impact Statement (DEIS) in compliance with the State Environmental Policy Act (SEPA) and other relevant state laws and regulations.

### **MAJOR CONCLUSIONS**

This is a phased non-project review proposal. The goal of the PSRCP is to restore and protect our natural heritage of Puget Sound rockfish populations. To attain this goal, the Washington Department of Fish and Wildlife has developed a range of policies, strategies, and actions that will help restore and maintain rockfish abundance, distribution, diversity, and long-term productivity in their natural habitats. The plan also offers a framework for state rockfish managers to follow in developing detailed regulations, establishing priorities, and providing guidelines for the development of additional plans with co-managers.

### **AREAS OF CONTROVERSY AND UNCERTAINTY**

The PSRCP proposes eight categories of actions. The most controversial categories are:

1. Fishery management- the PSRCP proposes a strategy which could reduce fishing opportunities for rockfish and other species.
2. Habitat restoration enhancement- the PSRCP proposes a strategy to consider restoration of degraded rockfish habitat. This strategy could have adverse impacts on other animals.
3. Hatchery production of rockfish- the PSRCP proposes development of hatchery production that could be used to restore rockfish population. The plan does not propose a hatchery program that would be used to sustain fisheries for rockfish at levels higher than can be supported naturally.

Based on consideration of comments received from agencies and interested parties during public review of the draft document, WDFW has prepared and is distributing this Final Environmental Impact Statement (FEIS). WDFW believes this FEIS will assist decision makers to identify the key environmental issues, and options associated with this action.

Sincerely,



Teresa A. Eturaspe  
SEPA/NEPA Coordinator  
Agency Responsible Official  
Protection Division, Habitat Program

*FINAL*  
**PUGET SOUND ROCKFISH  
CONSERVATION PLAN**  
Policies, Strategies and Actions

Including

Preferred Range of Actions

prepared by

WASHINGTON DEPARTMENT OF FISH AND  
WILDLIFE

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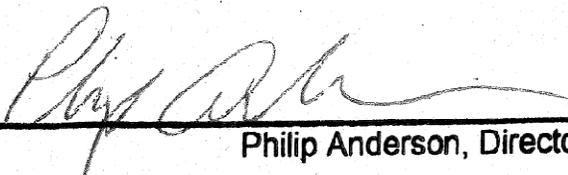


# Puget Sound Rockfish Conservation Plan.

Washington Department of Fish and Wildlife  
Fish Program  
600 Capitol Way N.  
Olympia, Washington 98501-1091

March 2011

Approved:



Philip Anderson, Director

3/15/2011

DATE

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The Department thanks the following persons for their support and guidance during the development of the Puget Sound Rockfish Conservation Plan and associated Environmental Impact Statement.

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## Introduction

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Rockfish in Puget Sound are in trouble. Many, but not all, rockfish species have declined in abundance, some quite severely, over the past two decades. These declines have resulted in increased scientific, economic, and social concerns about the status of the resource and the viability of fisheries for rockfish in Puget Sound. This concern has manifested itself in several forums. In 1999, a petition was presented to the federal government to list several species of rockfish in Puget Sound under the federal Endangered Species Act (ESA). A scientific conference held in the San Juan Islands in 2003 concluded that the outlook for rockfish was “grim” (Mills and Rawson, 2004). A special review by the American Fisheries Society found several species of rockfish to be “vulnerable” in Puget Sound. A review of marine life in Puget Sound concluded that demersal rockfish were in decline, largely as a result of overharvest (West 1997). Another review of marine fish concluded that marine fish in Puget Sound were among the most threatened stocks of fish in North America (Musick et al. 1998). In 2007, another petition was received by the federal government. This petition requested that five species of rockfish in Puget Sound receive protection under the ESA; in 2009 the Department of Commerce concluded that two of these species (canary and yelloweye rockfish) warrant protection as threatened and one species (bocaccio rockfish) warrants protection as endangered.

These declines have largely been caused by historical fishing practices, although several other stress factors play a part in their decline. Rockfish in urban areas are exposed to high levels of chemical contamination, which may be affecting their reproductive success. Poor water quality in Hood Canal has resulted in massive periodic kills of rockfish as well as other species. Lost or abandoned fishing nets trap and kill large numbers of rockfish. This Puget Sound Rockfish Conservation Plan (PSRCP) provides a plan for rebuilding rockfish populations and providing sustainable fisheries when appropriate.<sup>1</sup>

This plan was prepared by the Washington Department of Fish and Wildlife (WDFW) in response to these declines and threats. The goal of the plan is to provide a pathway to protect existing stocks of rockfish, rebuild depleted stocks, and provide sustainable fishing and other economic and harvest benefits to our citizens. The WDFW recognizes the Puget Sound tribes also have conservation concerns associated with rockfish populations. Rockfish co-management plans will be developed with appropriate Treaty tribes. The tribes’ and state’s fishery jurisdictions and authorities significantly overlap. To promote effective and efficient management of fisheries resources and to minimize potential conflict, the Department and tribes have developed a cooperative management approach to exercise their respective authorities and to achieve shared conservation objectives. This approach will be reflected in co-management agreements as the various tribes contribute their knowledge and expertise to support rebuilding wild

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<sup>1</sup> The Puget Sound Rockfish Conservation Plan refers to all rockfish species in Puget Sound and not specifically to the Puget Sound rockfish (*Sebastes emphaeus*) although this species is considered in the plan.

rockfish stocks. The PSRCP will be the foundation to manage non-tribal fisheries and will be used with tribal co-managers to develop fishery management plans.

WDFW has concluded that the adoption of this plan falls under the authority of the State Environmental Protection Act (SEPA). Accordingly, a Draft Environmental Impact Statement (EIS) was prepared to accompany this plan. After undergoing a period of public review, the Draft EIS and draft plan was revised, a Final EIS was issued, and the Puget Sound Rockfish Conservation Plan was adopted by the Department.

This plan will be used as the Department's basis for developing co-management plans with tribal governments, establishing priorities for funding and staff assignments, and making specific regulation changes. WDFW will develop a schedule within available resources to implement the Plan's strategies and actions. WDFW will seek additional resources and partnerships to fully implement the plan.

## Guiding Documents

The development of this plan was guided by:

1. State law defining the duties and powers of the Department of Fish and Wildlife (RCW 77) which can be found at:

<http://apps.leg.wa.gov/rcw/default.aspx?Cite=77>

2. Relevant policies adopted by the Fish and Wildlife Commission which include:

Puget Sound Groundfish Management (C3003);  
<http://wdfw.wa.gov/commission/policies/c3003.html>

Marine Fish Culture (C-2611);  
<http://wdfw.wa.gov/commission/policies/c3611.html>

Marine Protected Areas (C-3013);  
<http://wdfw.wa.gov/commission/policies/c3013.html>

3. The Department's 2009-2015 Strategic Plan, which is located at:

[http://wdfw.wa.gov/about/strategic\\_plan/](http://wdfw.wa.gov/about/strategic_plan/)

4. Relevant rulings by the federal court regarding the role of tribal governments in resource management in Puget Sound which includes:

Amendment to Paragraph G of "Order to Implement Interim Plan" entered May 8, 2001 in United States v Washington, Sub proceeding No. 96-2.

## **Time Period of Plan:**

Indefinite; once formally adopted, the plan will remain in existence until changed. Due to the long life spans of many species of rockfish, recovery can be expected to require several decades. For example, the stock rebuilding plan for canary rockfish in coastal waters is over fifty years (Methot 2005) and for yelloweye rockfish is approximately ninety years (Tsou and Wallace 2006).

During the time period the Plan is in effect, WDFW will conduct periodic review of progress made toward achieving the goals of the Plan. This review will include evaluating strategies and actions and may result in revisions to these items. WDFW anticipates that formal review of the Plan will occur every 5 years or less and the results of the evaluation will be made available to the public.

## **Geographic Area Covered By Plan: Puget Sound**

In this Plan, Puget Sound refers to the marine waters of Washington State east of Cape Flattery and south of the Canadian-United States border, including all waters south to Olympia, the San Juan Islands, and Hood Canal (Figure 1).



Figure 1. Map of Puget Sound showing management regions.

## Definition of Rockfish

By rockfish, we mean any species of fish in Puget Sound east of Cape Flattery belonging to the family Scorpaenidae and members of the *Sebastes* or *Sebastolobus* genera. While Palsson et al. (2009) identified 28 species of rockfish occurring in Puget Sound east of the Sekiu River, these species are also found in the Cape Flattery to the Sekiu River area, also known as “Neah Bay” (Table 1). Additional species may occur in the Neah Bay vicinity, including aurora, shorttraker, greenspotted, chilipepper, shortbelly, blackgill, yellowmouth, bank, pygmy, and harlequin rockfishes and longspined thornyhead (Love et al. 2005). However, these other species are generally offshore or rare species and have not been verified to occur in the Neah Bay vicinity. If additional species are confirmed to exist in Puget Sound, they will be managed under the auspices of this plan.

Species can be divided into stocks based upon their population structure. Several patterns of genetic structure have been found in Puget Sound. For management, each species will be defined to have one stock throughout Puget Sound unless indications of genetic structure have been found. Potential stock units are identified in Table 1. As more information becomes available, finer-scale stock units may be defined and require smaller-scale management.

Rockfish species can be grouped into several assemblages, or general categories, based on their life histories and habitat associations (Palsson et al. 2009). Species in the **nearshore sedentary** assemblage live in close association with rocky habitats usually in nearshore waters less than 40 meters (120 feet) in depth and, as adults, have high site fidelity. These species are commonly taken in hook and line fisheries in Puget Sound and include copper, quillback, and brown rockfish. A second category of rockfish is the **deepwater assemblage** which is composed of large, deep-bodied fish such as canary and yelloweye rockfish. As adults, these fish live in deeper water greater than 40 meters and are often associated with rocky habitats. A third category is the **pelagic assemblage**, which are the species that live higher in the water column and may move longer distances as adults. Species that fit this general description include the black, blue, yellowtail and widow rockfish.

While there are many species of rockfish found in the Sound, some are very rare and have apparently never been common (i.e., roughey and silvergray). Others are found only in very restricted areas of the Sound (i.e., blue and China rockfish). Other species are, or were, very common and provide valuable ecological functions as well as inclusion in commercial and recreational fisheries. Because it would be expensive or impossible to assess and manage every species of rockfish, WDFW will use the concept of an **indicator species** to represent one or several species within each assemblage. A species may be classified as an indicator species based on one or more of the following factors:

1. Is, or was, very common in Puget Sound;
2. Is, or was, important to recreational and/or commercial fisheries;
3. Provides important ecological functions; and/or
4. Has been identified at extreme low levels of abundance.

Management actions will focus on indicator species with the intent of imparting conservation benefits to those species and the other species within the assemblage. While management actions will focus on indicator species, other species will be considered as well. There are risks that other species within each assemblage may have different productivity patterns or ecological needs that are unlike the corresponding indicator species. These species may act as “weak” stocks that may not respond like indicator species. Several management strategies will be needed to ensure that non-indicator species are linked to indicator species and are not impeded by fishery, habitat, or other management actions. Many rare species are included in the

deepwater assemblage. The actions taken for the indicator species for this assemblage will likely provide protection for the rare species.

We propose that eight species of rockfish in Puget Sound be classified as an indicator species (Table 1). This list of indicator species may change as more information is obtained or through the co-management process with tribal governments. Each species in Puget Sound will be assigned to one of the three assemblages and receive management. All assemblages will have more than one indicator species. While we recognize that juvenile rockfish may occupy different habitats as they grow, the indicator species focus on adult assemblage characteristics. This approach to fishery management is used to manage other fisheries (Smith et al. 2009).

WDFW intends to manage rockfish in Puget Sound by geographical stock units. By “stock unit,” we mean a group of fish of one species that is large enough to be essentially self-reproducing with members exhibiting similar patterns of growth and migration. Movement of individuals between stocks should be minimal (Hilborn and Walters 1992). This Plan recognizes six geographical stock units as follows:

1. Puget Sound- species with a Puget Sound stock unit will be managed as one stock throughout Puget Sound
2. Neah Bay vicinity- species with this stock unit will be managed as one stock from Cape Flattery to the mouth of the Sekiu River
3. West of Port Angeles- species with this stock unit will be managed as one stock between Cape Flattery and Port Angeles
4. East of Port Angeles- species with this stock unit will be managed as one stock in all waters east of Port Angeles
5. North Puget Sound- species with; this stock unit will be managed as one stock from Cape Flattery to Port Townsend and north to the Canadian border, including the San Juan Islands
6. South Puget Sound- species with this stock unit will be managed as one stock from Port Townsend south to Olympia including Hood Canal and Saratoga Pass.

Additional stock units may be designated or modified as genetic and other information develops.

Within a stock unit, different management regulations may apply to address regional differences in abundance, habitat distribution, and fishery patterns. Fishing regulations may be more liberal in areas with higher abundance or more habitat than in other portions of the geographical stock unit with lower abundance or less habitat.

**Table 1. Rockfish assemblages, indicator species and stock units of rockfish in Puget Sound.**

<b>Assemblage</b>	<b>Species</b>	<b>Stock Units</b>
Nearshore Sedentary	<u>Copper</u> , <u>Quillback</u> , Brown, Tiger, Vermilion,	Each species consists of a North Sound and a South Sound stock unit
	China	This species consists of a North Sound stock only
Pelagic	<u>Black</u> , <u>Puget Sound rockfish</u> , Yellowtail, Blue	Each species consists of a single Puget Sound stock unit
Deepwater	<u>Yelloweye</u> , <u>Canary</u> , <u>Bocaccio</u>	Each species consists of a stock unit west of Port Angeles and a stock unit east of Port Angeles
	<u>Greenstriped</u> , Redstriped	Each species consists of a North Sound and a South Sound stock unit
	Splitnose, Shortspined thornyhead, Roughey, Redbanded, Darkblotched, Pacific Ocean Perch, Rosethorn, Rosy, Stripetail, Sharpchin, Silvergray, Halfbanded, Widow	Each species consists of a single Puget Sound stock unit
	<i>Aurora</i> , <i>Shorthead</i> , <i>Greenspotted</i> , <i>Chilipepper</i> , <i>Shortbelly</i> , <i>Blackgill</i> , <i>Yellowmouth</i> , <i>Bank</i> , <i>Pygmy</i> , <i>Harlequin</i> , <i>Longspine thornyhead</i>	Each species consists of a stock unit in the Neah Bay vicinity
<ul style="list-style-type: none"> <li>Indicator species for the assemblage are <u>underlined</u>. Species in <i>italics</i> are likely to occur in the Cape Flattery to Sekiu area but their presence has not been confirmed.</li> </ul>		

## Summary of Life History Factors Relating to Rockfish Management and Recovery

This management plan is based on the following life history and biological characteristics of rockfish. These characteristics will limit management flexibility and focus management effort.

1. Rockfish, as a group, are very vulnerable to the effects of fishing. Once populations are at a low level, recovery requires a great deal of time. Fishing strategies must be very protective of rockfish and allow only very low levels of exploitation.
2. Mortality of rockfish which are caught and released is very high due to barotrauma.
3. Management goals for rockfish should include more than maintaining a specified level of biomass. A successful management plan should consider the genetic structure, age, and size composition of the stocks as well.
4. Several species of rockfish are similar in appearance and can be caught at the same location. It is very difficult for recreational anglers and commercial fishers to distinguish one species from another, resulting in limited management flexibility to selectively harvest most species and a general lack of public ability to identify species.
5. Rockfish occupy similar habitat and depths as lingcod and halibut and are commonly taken as bycatch in these fisheries and, less frequently, in fisheries for salmon.
6. Annual reproductive success is very variable and marked by numerous years of poor recruitment and occasional years of high recruitment. Maintenance of many ages of rockfish in the population is important to buffer the impacts of a sustained period of poor recruitment.

## Goals and Policies

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This document is intended to provide a framework of policies, strategies, and actions that will lead to the achievement of the following goal:

**The goal of the PSRCP is to restore and protect our natural heritage of Puget Sound rockfish populations. Increases in the abundance, distribution, diversity and productivity of rockfish will help restore the Puget Sound ecosystem, provide opportunities to view rockfish in the marine environment, and, when appropriate, provide sustainable fishing opportunities.**

By natural heritage, we mean that rockfishes occur in their natural habitats and distributions throughout Puget Sound, the genetic structure of populations will remain intact within Puget Sound, portions of stocks will be protected that resemble unfished size and age distributions, and that rockfishes will provide for intact ecosystem functions in Puget Sound. WDFW recognizes that the people of Washington value an intact Puget Sound ecosystem, enjoy viewing rockfish and other wildlife, and seek fishing opportunities when stocks are at levels that can provide sustainable fisheries.

This plan considers the following eight different, but interlocking, policy categories:

1. Natural Production
2. Habitat Protection and Restoration
3. Fishery Management
4. Ecosystem effects
5. Evaluation, Monitoring and Adaptive Management
6. Research
7. Outreach, Education and Ecotourism
8. Enhancement

To meet this goal, this plan includes a set of strategies that:

- Recognizes the multi-species nature of the rockfish harvest.
- Considers the high mortality rates of released rockfish.
- Reduces the mortality of released rockfish.
- Acknowledges the public's difficulty in distinguishing one species of rockfish from another.
- Recognizes the lack of detailed information needed for more precise management.
- Increases our knowledge of rockfish population status.
- Implements methods to achieve goals in a cost effective manner.
- Fosters likely acceptance and support by the public.
- Provides opportunities for utilization consistent with conservation of the rockfish stocks.
- Develops co-management plans with tribes and forms partnerships with other organizations to further rockfish conservation.

## **POLICY CATEGORY: NATURAL PRODUCTION**

OBJECTIVE: Rockfish management shall place the highest priority on the protection and restoration of the natural production of indicator rockfishes to healthy levels.

Natural production means producing rockfish that are born in the wild from naturally occurring stocks in Puget Sound. Natural production integrates the management of habitat, fisheries, and enhancement activities under one cohesive policy. Because the ability to monitor and assess all species of rockfish is limited, the reliance on indicator species will provide similar information and conservation benefits for other species within each assemblage. There is some risk that individual species may have other productivity and limiting factors that may not be demonstrated by the indicator species for that assemblage. WDFW will examine whether the conservation actions taken for indicator species also benefit other species within the assemblage.

Indicator species will be managed in an ecosystem context that considers the natural capacity of a population to sustain itself in relation to food-web dynamics, fishery impacts, habitat alteration, water quality, other human-induced stressors and limiting factors, and climatic factors. Stocks will be managed to ensure the existence of intact genetic structure, sustainable production, age and size diversity, and ecosystem services. A healthy stock will have these characteristics (see Appendix A for details). Within a stock unit, different management regulations may apply to address regional differences in abundance, habitat distribution, and fishery patterns.

The management of other marine species will consider fishery, habitat, population, and other impacts on the integrity and sustainability of natural rockfish populations of indicator species.

Multiple tools are used throughout the world to protect and restore natural production of marine resources, including marine protected areas. In Washington we define marine protected area as a “geographical marine or estuarine area designated by a state, federal, tribal, or local government in order to provide long-term protection for part or all of the resources within that area” (Van Cleve et al. 2009).

This definition is quite broad, and can include a wide variety of measures ranging from complete prohibition of harvest activities to no special rules pertaining to harvest. WDFW has established both complete and partial, no-take areas which are designed to protect and conserve habitats; exclude fisheries to increase species abundance and biodiversity; protect ecosystem functions; and provide recreational, scientific, and educational opportunities<sup>2</sup>. These reserves amount to approximately 1% of the subtidal area of Puget Sound. Terminologies can be confusing as WDFW has used the terms marine protected areas, marine refuges, conservation areas, and preserves to impart complete and partial protections from harvest activities and other agencies and entities have used other terms (Van Cleve et al. 2009).

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<sup>2</sup> WDFW Policy C-3013 on Marine Protected Areas.

To avoid the confusion of past usage of terms and for the purposes of rockfish conservation in Puget Sound, we propose to use two types of protected areas: Marine Reserves and Rockfish Conservation Areas:

A **Marine Reserve** (MR) is a tool intended to allow permanent protection of a site specific, marine area. Depending on the site and corresponding needs, a marine reserve may be established to protect marine habitats, provide research opportunities and protect a variety of natural functions including fish reproduction. Full harvest restrictions will occur in marine reserves.

A **Rockfish Conservation Area** (RCA) is a tool that can be used to rebuild rockfish stocks to healthy levels and to protect the genetic, size and age diversity of portions of rockfish populations. Depending on the site and corresponding needs, an RCA may be established as a permanent or temporary feature and will have specific harvest restrictions intended to meet the goal of rockfish protection at the site.

Using the Washington Administrative Code (WAC), WDFW defines “Conservation Areas” which are complete no-take areas and “Marine Preserves” which are partial-take areas. In terms of the PSRCP, these areas correspond to Marine Reserves and Rockfish Conservation Areas, respectively. Establishment of either type of area by WDFW does not prohibit the harvest by persons fishing under the authority of tribal regulations.

### **Strategies**

1. **Protect and restore the genetic, size, and age diversity of indicator species.**
2. **Identify and reduce stressors on indicator rockfish species within an ecosystem perspective.**
3. **Implement holistic, integrated management strategies.**

### **Actions**

1. Develop standards, especially in data-limited situations, to establish stock status and restoration standards for discussion with tribal co-managers. The Department will use, as a foundation, the concepts of stock status as discussed in Appendix A.
2. Establish benchmarks for indicator species to meet the natural production objective and strategies and use governmental accountability and other procedures to monitor success at meeting benchmarks.
3. Assess the status of indicator species of rockfish on a 5-year, or more frequent, basis.
4. Evaluate that the management of indicator species imparts conservation benefits to other rockfish species.

5. Develop a science-based system of marine reserves and rockfish conservation areas that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems. Use scientists, fishers, and interested parties to develop goals and objectives for a system of marine reserves and RCAs. Marine Reserves and RCAs will be developed and adopted in a transparent public process. Current Marine Reserves and RCAs and new sites will be evaluated to determine if they are meeting goals or need modification (See Monitoring, Evaluation, and Adaptive Management).
6. WDFW will implement an agency process to integrate habitat management, fisheries management, ecosystem research, and enhancement activities to coordinate and account for all activities across agency programs. WDFW will identify key stressors and reduce their effects by involving and working with the Puget Sound Partnership, NOAA-Fisheries, other state agencies, the Northwest Straits Commission and other local organizations.

## **POLICY CATEGORY: HABITAT PROTECTION AND RESTORATION**

Objective: Protect and restore all marine habitat types for all rockfish species.

Most species of rockfish are highly dependent upon rocky habitats as adults. However, some species occur on sand, cobble, and open-water habitats, and as younger life stages depend upon a variety of open-water, vegetated, nearshore, sandy, or cobble habitats. WDFW intends to protect and, where needed, restore degraded habitats to natural levels. This will ensure that the physical spaces and pathways needed for rockfish to thrive are available.

Several approaches and regulations can be used to protect and restore rockfish habitats. WDFW has instituted a hierarchy of protection and mitigation approaches for habitat. Recognizing that at times, the needs of society will result in habitat degradation, the agency has pursued a policy of avoiding, rectifying, minimizing, and compensating for the impacts. Impacts will be monitored and alterations made to achieve habitat protection objectives. Rockfish habitat could be protected by enforcing existing rules and creating new rules encouraging other agencies (state, federal, local and tribal) to do the same. Under the hydraulic code (WAC 220-110); WDFW has the authority to regulate construction in marine waters of Puget Sound, including all rockfish habitat. The code, commonly referred as “HPA” (hydraulic project approval), is designed to provide general protection for fish life and specifically protects certain activities and identifies rockfish settlement and nursery areas, eelgrass meadows, and kelp beds as special habitats of concern. However, the HPA code does not emphasize rocky marine habitat, the habitat type most commonly associated with rockfish in Puget Sound. These protections will need to be strengthened along with those offered by other authorities.

Rockfish habitats have been degraded by chemical contamination, derelict fishing gear, dredge disposal, and filling of marine habitats, mobile fishing gears, and poor water quality. Restoration efforts can be focused on removing derelict gears, improving water quality, constructing artificial habitats in permanently damaged areas, or removing deleterious man-made materials. The relationship between rockfish, especially juvenile stages, and their habitats is still poorly understood and needs further research.

Since 2002, the Northwest Straits Commission has been a leader in identifying and taking actions to solve the problem of derelict fishing gears. Most recently, the Northwest Straits Commission conducted a vigorous program to remove derelict fishing nets and restore habitats in the shallow waters of Puget Sound. The goal of this effort is to remove 3,000 derelict nets by December 2010. This removal should provide substantial benefits to rockfish conservation efforts and improve rockfish habitat. However, efforts are needed to remove nets in deeper waters, to remove other derelict gears, and to prevent the loss of fishing gear in the future.

### **Strategies**

1. **Enhance the effectiveness of WDFW habitat protection measures and programs to protect all rockfish habitats.**
2. **Provide technical expertise to other agencies and interested groups to promote identification and protection of rockfish habitats.**
3. **Restore degraded rockfish habitats including those impaired by poor water quality.**
4. **Use marine reserves as tools to protect and restore rockfish stocks, habitats, and ecosystems.**

### **Actions**

1. Incorporate all rockfish habitats as Habitats of Special Concern to the Hydraulic Project Approval criteria, the Priority Habitats and Species, the Habitat Conservation Plans, and other WDFW habitat conservation initiatives.
2. Provide updated information on rockfish habitat requirements and the distribution of these habitat types to tribal co-managers and agencies to evaluate projects that modify rockfish habitats.
3. Promote cooperative projects to inventory and map sea floor and identify habitats through high-resolution imagery.
4. Identify degraded rockfish habitat, including those impacted by derelict gear and degraded water quality including pollution from endocrine disruptors, carcinogens, and other deleterious compounds, and develop a long-range restoration program.

5. Develop a science based system of marine reserves that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
6. Work with the Northwest Straits Commission, the Department of Natural Resources, the Puget Sound Partnership, the Department of Ecology, NOAA Fisheries, the US Fish and Wildlife Service, Canada, non-governmental organizations, and other agencies to protect rockfish habitats and restore habitats degraded or lost due to pollution, disruption, and derelict fishing gear.

## **POLICY CATEGORY: FISHERY MANAGEMENT**

**OBJECTIVE:** All fisheries in Puget Sound waters will be managed to ensure the health and productivity of all rockfish stocks.

Fisheries management is the process and actions to provide public benefits from natural resources including sustainable fishing opportunities, watchable wildlife, and ecosystem functions. Fishing can impact fish that are intentionally harvested, or are encountered as unintended catch, often called bycatch. WDFW seeks to manage all species of rockfish harvested and encountered by commercial and recreational fishers by focusing on indicator species. We will improve methods to collect detailed information on the indicator species, including amount of catch, length and age composition of the catch, and depth of capture. By concentrating on the indicator species, we can make the best use of scarce agency resources and improve our knowledge of population and fishery changes for these species. WDFW recognizes that weaker or less common stocks or species may be affected by fisheries and will seek to assure that those weaker or less common stocks are not overharvested.

Past fishing practices have been a major factor affecting the abundance and size structure of rockfishes. While other stressors such as marine mammal predation, climate, and pollution may affect rockfish stocks, these stressors act both in marine protected areas and fished areas. The greater sizes and densities observed in many marine protected areas in Puget Sound indicate that fishing is the most significant factor contributing to the observed differences between protected and fished areas.

### **Strategies**

- 1. Work with tribal co-managers to establish and implement fishery management guidelines that promote healthy rockfish stocks and restoration of the Puget Sound ecosystem.**
- 2. Manage commercial and recreational fisheries consistent with fishery management guidelines for all rockfish species.**
- 3. Minimize disruptions to other fisheries when possible.**

## Actions

1. Use the PSRCP to develop fishery management plans with tribal co-managers.
2. Manage all fisheries to ensure that fishery management guidelines for rockfish are not exceeded.
3. Use gear, depth, time, area, and other restrictions to achieve fishery management guidelines.
4. Develop a science based system of Rockfish Conservation Areas that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
5. Provide for fishing opportunities for other species consistent with rockfish fishery management guidelines.
6. Account for all rockfish encountered in all fisheries through fishery monitoring and estimation programs.
7. Develop and implement measures to increase the survival of released rockfish such as identifying the best handling practices and rapid submergence techniques, educating fishers about these techniques, or, if needed, requiring fishers to use rockfish release equipment and procedures.
8. Work with the Northwest Straits Commission, tribes, fishers, and other groups to improve the system to report, and account for fishing gear lost during active fishing operations and remove derelict gear. Evaluate the potential effectiveness of voluntary and mandatory reporting and marking systems to prevent the accumulation of derelict gear to reduce rockfish mortality.
9. Evaluate the effectiveness of removing derelict fishing gear in increasing rockfish populations and restoring rockfish habitat.
10. Seek opportunities and funding to enhance enforcement presence in Puget Sound.

## POLICY CATEGORY: ECOSYSTEM

Objective: Protect existing functions of indicator rockfishes and conduct activities to restore the functions of indicator rockfishes in the complex ecosystem and food web in Puget Sound.

Rockfish, as a group, occur throughout Puget Sound and are a vital component of the ecosystem in Puget Sound. While ecosystem science is still developing, we know that rockfish are both important predators and prey in the food web, are affected by climatic and oceanographic factors, die from natural mortality, compete as important members of fish communities, and are affected by a variety of human-caused stressors. Human-caused stressors already identified in habitat and fishery management sections can amplify natural stressors further impairing the health of rockfish populations. As climate changes occur, we can expect that the abundance and productivity of rockfish species

will change, likely favoring more warm-tolerant species and perhaps limiting some species that are presently common.

The ecosystem functions of rockfish are poorly understood and not quantified. NOAA Fisheries and their partners, including WDFW, are developing a food-web and ecosystem model of Puget Sound that will help identify data gaps and major limiting factors of rockfish and other marine populations. As these models develop, WDFW and its partners will identify the ecosystem needs, benefits, and limitations of the indicators species of rockfish in order to inform and improve the ability to manage for natural production, habitat, and fisheries.

### **Strategies**

- 1. Ensure that the abundance, distribution, and structure of indicator rockfish stocks provide benefits to other species and ecosystem components.**
- 2. Identify and address the limiting ecosystem factors affecting the indicator species of rockfish, such as human-caused stressors, predation, and disease.**
- 3. Incorporate new information on the effects of climate change on the management of rockfish and their ecosystems.**

### **Actions**

1. Investigate and reduce the impacts of human-caused stressors, such as pollution, habitat degradation, and fisheries that impair the productivity of indicator rockfish stocks.
2. Consider and, where necessary, reduce fishery harvests and implement marine reserves to provide intact food-webs, and ecosystem functions so biological communities can thrive.
3. Develop a science based system of marine reserves that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
4. Partner with state, federal, and Canadian agencies and scientists to improve existing food-web and ecosystem models to identify and take actions to restore rockfish stocks.
5. Minimize introductions of aquatic invasive species that may negatively impact rockfish.
6. Partner with agencies and scientists to predict and react to climate change including increases in water temperature, changing pH, and rises in sea surface level.

## **POLICY CATEGORY: MONITORING, EVALUATION AND ADAPTIVE MANAGEMENT**

Objective: Conduct monitoring, evaluation and management of indicator stocks to provide the basis to evaluate stock status and the success of management actions.

Monitoring, evaluation, and adaptive management are the integrated activities that result in the successful management of resources and programs. There are several types of environmental monitoring that can be applied to rockfish management: long-term baseline monitoring to determine stocks status and trends, impact monitoring to test whether management actions are effective, and compliance monitoring to determine whether individuals and agencies are complying with or implementing required actions. Evaluation of these monitoring activities and other research findings provides the analysis of the health of rockfish stocks and whether management actions, rules, and agreements are effective. Adaptive management is the process of making changes in management practices as the result of the monitoring and evaluation. Monitoring, evaluation, and adaptive management are required to produce successful management and to judge the success of current management efforts.

WDFW will monitor indicator stocks of rockfish, the integrity of rockfish habitats, fisheries, and important ecosystem functions. These data will be analyzed and evaluated in terms of meeting healthy stock criteria, effectiveness of Marine Reserves and Rockfish Conservation Areas, fishery management guidelines, habitat protection initiatives, and improving and understanding ecosystem benefits. WDFW rules and programs will be examined periodically to understand whether they are effective or need to be changed and adapted to existing or emerging concerns.

### **Strategies**

- 1. Use fishery dependent and independent monitoring and other information to periodically assess indicator rockfish stocks.**
- 2. Work with tribal co-managers, citizens, agencies, Canada, and scientists in monitoring, evaluating, and managing rockfish stocks.**
- 3. Adopt flexible management and regulatory programs that will allow rapid change of regulations or policies in response to new information or altered environmental conditions.**
- 4. Regularly review progress towards the objectives and modify strategies or actions which are not producing desired results.**
- 5. Ensure species within an assemblage are receiving the desired benefits of the representative indicator species.**
- 6. Enforce rules and regulations that protect rockfish.**

## Actions

1. Collaborate with tribal co-managers and other scientists to monitor and evaluate indicator rockfish stocks and rockfish stock structure. Develop common standards and practices to maximize the use of the data and findings.
2. Define quantifiable goals and benchmarks for healthy stock levels and sustainable fishery harvests using the Government, Management Accountability and Performance (GMAP) or other accountability systems to assure goals and benchmarks are being achieved.
3. Conduct fishery-dependent programs to account for all catch and fishing effort and to monitor species composition and biological characteristics of indicator rockfish stocks.
4. Conduct trawl, acoustic, video, scuba and other fishery-independent surveys so all regions are visited at least every five years to monitor indicator rockfish stock abundance, habitat quality and ecosystem functions.
5. Evaluate indicator stocks with assessments and models that integrate fishery dependent, fishery independent, and biological information on a 5-year (or more frequent) basis.
6. Conduct studies that address non-indicator rockfish species to ensure their stocks are receiving the desired benefits of the representative indicator rockfish species. Use information on non-indicator species collected during surveys targeting indicator species when available to evaluate their status.
7. Use scientists, fishers, and interested parties to develop goals and objectives for a system of Marine Reserves and RCAs. Evaluate current sites and new sites on a 5-year or more frequent basis to see if they are meeting goals and need modification. Establish baseline conditions before reserves are established.
8. Involve citizens to conduct monitoring and to evaluate the success of the strategies and actions, and use information provided by fishers, divers, beach watchers and other organized groups such as Coastal Conservation Association, Puget Sound Anglers, REEF (Reef Environmental Education Foundation), Washington State University, and other non-governmental sources to evaluate the strategies and actions.
9. Strengthen our partnerships with Canada in the Technical Subcommittee of the Canada-United States Groundfish Committee (appointed by the Conference on Coordination of Fisheries Regulations between Canada and the United States) and other venues to provide mutual benefits regarding rockfish management and rebuilding across transboundary waters.
10. Work with enforcement authorities to provide information and tools needed to effectively enforce regulations protecting rockfish.
11. Work with partners to clearly mark Marine Reserves and RCAs, and work with enforcement authorities and volunteers to improve compliance.
12. Every five years, conduct a review of the implementation of the strategies and

actions employed in this plan. The review will be conducted by WDFW and will include an opportunity for public comment. The results of the review will be available to the public.

## **POLICY CATEGORY: RESEARCH**

**OBJECTIVE:** Implement new and cooperative research to understand the diversity, biology and productivity of indicator rockfishes as well as needs for recovery.

Rockfish research uses the scientific process to discover new information about the biology, management, and monitoring effectiveness of the strategies and actions taken for indicator rockfish stocks in Puget Sound. Science relies upon the peer-review process to independently confirm the validity of new research results. Efforts to understand the Puget Sound ecosystem, model populations, evaluate Marine Reserves and Rockfish Conservation Areas, protect habitat, manage for climate change, enhance populations, and manage fisheries will all benefit from a vigorous research program.

### **Strategies**

- 1. Identify data gaps and research needed to successfully implement this plan.**
- 2. Increase partnerships with tribal co-managers, universities, Canadian scientists, non-governmental organizations and state and federal agencies.**
- 3. Rely upon a peer-review process to independently confirm the validity of research findings.**
- 4. Proceed with other actions in this Plan while research is being conducted.**

### **Actions**

1. Convene a workshop to identify the key research needs for rockfish, including juvenile and sub-adult life stages, in Puget Sound.
2. Promote cooperative rockfish research by forming a standing work group of rockfish scientists.
3. Secure funding through grants, foundations, and other sources to support key rockfish research.
4. Conduct research to address key needs for rockfish.
5. Implement a process to ensure peer review of key agency findings.

## **POLICY CATEGORY: OUTREACH, EDUCATION AND ECOTOURISM**

**OBJECTIVE:** Conduct a strategic outreach and education program to inform Washington citizens of the value of rockfish stocks and to promote ecotourism.

There is a substantial need to inform Washington residents and others about the status of rockfish in Puget Sound and the need for strong conservation efforts. The purpose of conducting an education effort is to inform the public about the important role of rockfish in the ecosystem and actions individuals can take to protect and restore the health of rockfish in Puget Sound.

Ecotourism for rockfish provides the experience to observe rockfish in their natural environment. Ecotourism promotes environmental awareness and low impact on natural resources.

### **Strategies**

- 1. Educate Washington residents about the efforts to conserve and restore rockfish populations in Puget Sound.**
- 2. Educate anglers about rockfish identification, methods of reducing the incidental encounters, and the use of release techniques that minimize mortality.**
- 3. Promote ecotourism by providing information about viewing opportunities for rockfish in Puget Sound.**
- 4. Regularly inform the public on the implementation of new initiatives, and progress towards achieving plan objectives.**

### **Actions**

1. Develop a webpage and utilize other media to feature the Puget Sound Rockfish Conservation Plan and the Department's effort to protect and restore rockfish in Puget Sound.
2. Work with the Puget Sound Partnership, agencies, and groups to increase public involvement in efforts to protect and restore rockfish in Puget Sound and to identify and reduce stressors such as pollution.
3. Establish partnerships with aquariums, marine science centers, and other groups to teach children and adults about the importance of rockfish in the Puget Sound ecosystem.
4. Work with advisory and fishing groups to: 1) improve identification of rockfish (both out of and in the water); 2) reduce encounters of rockfish while fishing for other species; and 3) effectively release rockfish.
5. Include within WDFW's *Fishing in Washington* pamphlet information on identifying rockfish, reducing encounters of rockfish while fishing for other species, and methods of effectively releasing rockfish.

6. Promote underwater viewing opportunities and ecotourism for rockfish in Puget Sound by working with organizations promoting tourism, distributing maps and brochures, and developing websites.
7. Education will feature all policy elements of the plan, but will focus initially on new or controversial elements.

## **POLICY CATEGORY: ENHANCEMENT (Artificial Habitat and Hatchery Production)**

**OBJECTIVE:** Promote the achievement of the natural production policy objective through the appropriate use of:

- a. Hatchery production to rebuild depleted rockfish stocks; and
- b. Artificial habitats consistent with the hierarchy of habitat protection and mitigation approaches.

These tools will be implemented in a manner that preserves the ecological balance of the marine community and avoids negative impacts on the recovery of any species listed as endangered or threatened under state or federal statutes.

**Hatchery Production-** WDFW will rely on natural production to meet its rockfish conservation objectives unless a stock is designated as depleted and meets the conditions and constraints outlined under the terms of Fish and Wildlife Commission Policy on Marine Fish Culture (C3611). If a stock is designated as depleted, hatchery techniques may be employed as a rebuilding tool. Hatchery techniques include collection of brood stocks, fertilization and rearing of young in the hatchery, and release of larvae or juveniles into the environment. We do not plan to utilize hatchery culture of rockfish exclusively to provide recreational fishing opportunities. Production of cultured rockfish would cease when the stock has recovered to a healthy level. Additionally, research may be conducted to prepare culture techniques prior to their use. Hatchery production may be used to produce rockfish for research purposes.

**Artificial Habitats -** WDFW may use artificial habitats to restore and mitigate for degraded rockfish habitats. Degraded habitat includes, but is not limited to, habitat damaged by construction activities, habitat in areas of poor water quality and areas damaged by the presence of derelict fishing gear. Artificial habitats for rockfish have been constructed in Puget Sound to enhance recreational opportunities and to mitigate for damaged habitat. If artificial habitat is created, some mitigation for loss of existing habitat may be required.

### **Strategies**

1. **Use hatchery production in combination with habitat, fishery and ecosystem strategies to restore depleted rockfish stocks to healthy levels.**
2. **Develop and evaluate hatchery production techniques with the NOAA Fisheries and other partners for restoring depleted rockfish stocks.**

- 3. Artificial habitats may be used to restore and mitigate for degraded rockfish habitats.**
- 4. Balance the goal of utilizing natural production for rockfish with any proposed enhancement activity.**

### **Actions**

1. Conduct research to evaluate the risks and uncertainties associated with the release of cultured rockfish and artificial habitats.
2. Identify degraded rockfish habitats, develop requirements for artificial habitat construction, and construct new habitats to restore degraded natural habitats.
3. Develop and adopt requirements in WAC for construction and placement of artificial habitats in state waters.
4. Monitor and evaluate culture techniques and artificial habitat construction to ensure they are successfully restoring depleted rockfish stocks and restoring degraded rockfish habitat.
5. Implement and evaluate rockfish culture techniques and artificial habitat construction actions that also restore other marine species and ecosystem functions.
6. Develop partnerships with NOAA Fisheries, universities, and other organizations to implement these activities.
7. Prioritize species for hatchery culture, establish specific goals for any proposed enhancement activity and evaluate risks and benefits of the enhancement activity relative to the goals of this plan.
8. Use scientists, fishers, and interested parties to review the risks and benefits of specific enhancement activities. Conduct research to determine if the enhancement activity achieved the stated goal.

## **NEXT STEPS**

Following the adoption of this Plan, WDFW will develop an implementation schedule that will provide a timeline for actions that can be accomplished with existing agency capacities. The implementation schedule will include a strategy to secure additional resources needed to implement the Plan and identify effectiveness measures.

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## APPENDIX A Stock Status

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Stock assessment is the analysis of biological and statistical data used to determine the status of a fish stock relative to a biological reference point. Often stock assessments measure changes in abundance and, if possible, to predict the future trends of abundance. When detailed information is lacking, we will use data-limited measures and indices to determine stock status. Data-limited information includes catch-per-effort, indices of stock abundance from surveys, distributional information, and size of fish from catches or surveys. Past fishery and survey information has been applied to determine rockfish stock status by Palsson et al., (2009), but new criteria will be needed to establish future stock status, clear rebuilding targets and recovery goals.

When detailed stock information is available, we will use the unfished biomass of the stock as an absolute measure of stock abundance. Similar to Pacific Fishery Management Council (PFMC) objectives, we will seek to maintain rockfish stocks at least at 50% of their unfished biomass ( $B_{50\%}$ ) in order to maintain the stock at the biomass of maximum sustainable yield ( $B_{msy}$ ). The PFMC also defines an overfished state when stocks are at or below 25% of their unfished biomass ( $B_{25\%}$ ). These guidelines are similar to those criteria established by Palsson (2009) to define four stocks status conditions for Puget Sound rockfishes using the same theoretical framework but modified with other criteria for data-limited situations. Due to lack of data, especially from early years in the fishery, it will be difficult or impossible to accurately calculate the size of the unfished biomass of any species or any stock of rockfish in Puget Sound.

In data-limited situations, The North Pacific Fishery Management Council has adopted a harvest policy that establishes reduced harvest levels to account for risk and uncertainty (Thompson 1997).

WDFW will use the following three stock status conditions to assess the health of rockfish in Puget Sound. The three status conditions are based on both PFMC definitions and data-limited conditions collapsed from Palsson et al. (2009):

**Healthy Stock Status:** A Healthy Stock is one that has a biomass at or above  $B_{50\%}$ . The data-limited definition of a Healthy Stock is one that shows a long-term trend that is stable, increasing, or varies without trend at or above historic levels.

**Precautionary Stock Status:** Precautionary Stocks are those that have stock biomasses between  $B_{25\%}$  and  $B_{50\%}$ . The data-limited definition is a stock that demonstrates instability, is decreasing, or has no information to establish condition.

**Depleted Stock Status:** A Depleted rockfish Stock is one that is at or below  $B_{25\%}$ . The data-limited definition of a Depleted stock is one that has negative indices exceeding AFS vulnerability thresholds corresponding to its population productivity. This category includes the Vulnerable status used by Palsson et al., (2009).

In addition to traditional stock assessment approaches; we propose the use of Marine Reserves and RCAs to serve as reference areas resembling healthy and intact habitats for use as unfished reference points for healthy stocks. As Marine Reserves mature in Washington, British Columbia, and in nearby waters, they may provide baseline measures of unfished biomass in terms of abundance, size and age structure, and reproductive output. Information from Marine Reserves, historical catch and biological data, and new modeling efforts may provide the most likely tools and benchmarks for designating the criteria for a healthy rockfish stock. For example, copper rockfish density observed from the oldest marine reserves and in the area could define the goal for half of the nearshore rockfish habitat in Puget Sound. In addition, the size frequency of copper rockfish from long-term reserves or historical fishery monitoring to evaluate stock status could be used as size-based goal for a significant portion of the copper rockfish stock.

## APPENDIX B. Definitions

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The following are definitions of terms as used in the Puget Sound Rockfish Management Plan. They are presented here to prevent confusion with how these or similar terms are used in other efforts.

**Artificial Production:** The rearing and release of fish from an artificial culture setting such as a hatchery.

**Biomass:** The weight of a stock of fish. Often limited to the weight of the spawning population.

**Bottomfish:** A group of fishes that is closely associated with the bottom. Examples include rockfish, Pacific cod, greenling, lingcod, sharks, sculpins, soles and flounders. Bottomfishes are legally defined by WDFW (WAC 220-16-340) and the definition excludes Pacific halibut and shiner perch.

**Bycatch:** Encounters of one species that is taken incidentally while fishing for another species. For example, a person may be fishing for Chinook salmon and incidentally catch a rockfish. This fish may or may not be retained by the angler.

**Catch (Encounters):** A rockfish that is caught by a commercial or recreational fishery. Encountered rockfish may be harvested retained by the fisher or released back to the Sound. Released fish may be dead or alive.

**Catch-and-Release:** A non-retention hook-and-line fishery.

**Depleted Stock Status:** A Depleted rockfish stock is one that is at or below  $B_{25\%}$ . The data-limited definition of a Depleted stock is one that has negative indices exceeding AFS vulnerability thresholds corresponding to its population productivity.

**Diversity:** Variation among individuals in age, size, life history, or genetic characteristics, or the number or evenness of species among biological communities.

**Groundfish:** Fish that are associated with or live near the bottom including bottomfish, Pacific halibut, and unclassified marine fishes.

**Harvest:** The total number of fish caught and retained by a fisher. These fish are landed on shore and are all dead. In this document “catch” means the same as “landed catch.”

**Healthy Stock Status:** A Healthy Stock is one that has a biomass at or above  $B_{50\%}$ . The data-limited definition of a Healthy Stock is one that shows a long-term trend that is stable, increasing, or varies without trend at or above historic levels.

**Incidental catch:** See bycatch

**Indicator Species:** A species of rockfish identified as important by the WDFW. Indicator species may receive more intense monitoring, research, and protection than other species of rockfish in Puget Sound.

**Landed Catch (Harvest):** The portion of the encountered rockfish which is brought to shore at the end of a fishing trip.

**Marine Reserve:** A tool intended to allow permanent protection of a site specific, marine area. Depending on the site and corresponding needs, a marine reserve may be established to protect marine habitats, provide research opportunities and protect a variety of natural functions including fish reproduction. Full harvest restrictions will occur in marine reserves.

**Maximum Sustainable Yield (MSY):** The largest average catch (including released fish) that can be taken from a stock under existing environmental conditions.

**Natural Production:** Fish that spawn or rear entirely in the natural environment. These fish may be the offspring of natural or hatchery production.

**Natural Stock:** Fish that are produced by spawning and rearing in their natural habitat, regardless of parentage.

**Neah Bay Area:** Those waters between Cape Flattery and the Sekiu River.

**Non-Treaty:** All fishers except those with reserved rights identified in treaties.

**North Puget Sound:** Those waters east of Cape Flattery to Port Townsend and north to the Canadian border. This area includes the Straits of Juan de Fuca and Georgia, the San Juan Islands, and Bellingham Bay.

**Precautionary Stock Status:** Precautionary Stocks are those that have stock biomasses between  $B_{25\%}$  and  $B_{50\%}$ . The data-limited definition is a stock that demonstrates instability, is decreasing, or has no information to establish condition.

**Productivity:** A stock's intrinsic rate of increase. The higher the productivity, the quicker the population will fill the habitat and the more resilient it will be to harvest and to survive other sources of mortality.

**Released catch:** Fish are returned to the water by the angler. These fish may be dead or alive at the time of release. Fish may be released because retention is prohibited, the species is undesirable, or the individual fish is too small to be of interest.

**Revised Code of Washington (RCW):** Laws enacted by the Legislature and signed by the Governor which direct the activities of WDFW and other agencies. Many of the laws affecting WDFW are found in Chapter 77 of the Code.

**Rockfish Conservation Area (RCA):** A tool that can be used to rebuild rockfish stocks to healthy levels and to protect the genetic, size and age diversity of portions of rockfish populations. Depending on the site and corresponding needs, an RCA may be established as a permanent or temporary feature and will have specific harvest restrictions intended to meet the goal of rockfish protection at the site.

**South Puget Sound:** Those waters south of Port Townsend to Olympia including Hood Canal, Admiralty Inlet, Saratoga Pass and Port Susan.

**Stock:** A group of fish within a species, which is substantially reproductively isolated from other groups of the same species.

**Target Species:** The species that is a fisher's intended catch during a fishing trip.

**Wild:** See Natural Stock.

**WAC:** Washington Administrative Code- A listing of rules enacted by state agencies to implement state laws (RCWs). WACs may be found at:

<http://apps.leg.wa.gov/wac/default.aspx>.